

in Hopi maize. However these striking features may have originated, it is obvious that they enable this race to grow in much more arid situations than other races of maize, and it is suggested that it may well become an important economic plant in arid regions.—H. C. COWLES.

Indiana Academy of Science.—The volume of *Proceedings* for 1912 contains the following abstracts and papers of botanical interest: "Further notes of the seedless fruits of the common persimmon (*Diospyros virginiana* L.)," and "The influence of certain environic factors on the development of fern prothallia," by DAVID M. MOTTIER; "The mosses of Monroe County," by F. L. PICKETT and MILDRED NOTHNAGEL; "Length of life of *Arisaema triphyllum* corms," and "Acetic alcohol as a killing and fixing agent in plant histology," by F. L. PICKETT; "Plants not hitherto reported from Indiana," by CHAS. C. DEAM; "Report of the work in corn-pollination, IV," by M. L. FISHER; "Conjugation in *Spirogyra*," by F. M. ANDREWS; "Photosynthesis in submerged land plants," by H. V. HEIMBERGER; "Indiana fungi, III," by J. M. VAN HOOK; "Fungous enemies of the sweet potato in Indiana," by C. A. LUDWIG; "Notes on some puff balls of Indiana," by FRANK D. KERN; "The improvement of medicinal plants," by F. A. MILLER; "The structure and diagnostic value of the starch grain," by R. B. HARVEY.—J. M. C.

Structure of tropical amphibious plants.—Material of *Ipomea reptans* and *Neptunia prostrata* obtained from pools in northwestern Madagascar that are quite dry during a considerable portion of the year was examined by CHOUX,¹⁵ who compared the anatomy of the portions developed during the wet and dry seasons. He found considerable differences in size and external appearance, while in internal structure the stems developed during the dry season showed (1) proportionately greater development of vascular and fibrous tissue, together with smaller air passages; and (2) a considerable amount of stored starch, a food reserve quite lacking in portions developed during the humid season. It would seem, therefore, that in these two tropical amphibious forms the growth activity results during the dry season in the accumulation of reserve food; while during the wet season the growth is so vigorous that it uses not only the food then manufactured, but also that which has been accumulated during the previous months.—G. D. FULLER.

Osmosis in soils.—The recent results obtained by LYNDE,¹⁶ showing that certain soils, notably the clays, promote the movement of soil water by acting as semipermeable membranes, increasing in efficiency with their depth, suggest

¹⁵ CHOUX, P., De l'influence de l'humidité et de la sécheresse sur la structure anatomique de deux plantes tropicales. *Rev. Gén. Botanique* 25:153-172. 1913.

¹⁶ LYNDE, C. J., Osmosis in soils. Soils act as semipermeable membranes I. *Jour. Phys. Chem.* 16:759-765. 1912; and LYNDE, C. J., and BATES, F. W., Osmosis in soils. Soils act as semipermeable membranes II. *Ibid.*, 766-781.